ST. JOSEPH'S COLLEGE (AUTONOMOUS), BANGALORE-27
M.Sc BIG DATA ANALYTICS - II SEMESTER
SEMESTER EXAMINATION: APRIL 2019
BDA 2318- MACHINE LEARNING

Time- 2 1/2 hrs   **Max Marks-70**
This paper contains one printed pages and one parts
Answer any Seven questions of the following.
All question carries equal marks (10 marks)

1. What is the role of machine learning in Artificial Intelligence(AI) system? Is it really important for technologies like AI to grow in India?

2. A company wants to integrate a predictive model into their main stream website, as a budding Big Data Analyst you are called upon by the top management to design a Learning system which is capable to predict if any transaction is fraudulent or not. You have to design the architecture of this system in terms of "concept of learning task".

3. What is the difference between statistical and Machine Learning Models? What is the difference between OLS and LMS?

4. Derive learning cost functions for Linear Regression and Logistics Regression.

5. Why Artificial Neural Network is also referred as Deep Learning? Explain the concept of Single Neuron with the help of a diagram.

6. Explain the following terms: (5+2+3)
    a. Find-S algorithm
    b. Hypothesis
    c. Bias

7. Derive Linear Support Vector Machine for a Classification problem.

8. Is unsupervised learning algorithm equally powerful to supervised learning algorithm? Justify your answer with the help of an example.

9. Machine Learning algorithm performance is said to be greatly dependent on which of the following techniques - Feature Selection or Feature Transformation. Justify your answer.